

1 A In the late 60s the FCC had been requested and there
2 had been some industry discussions concerning the institution
3 of a pair of frequencies that bordered the edge of the then
4 existing Mobile frequencies that were widely used. At that
5 time there were two frequencies which were devoted to, to
6 paging and the maximum power permitted was 500 watts and the
7 maximum antenna height above average terrain was 500 feet by
8 statute, and this really started Part 21 of the rules and
9 that's when most of that came about. At the time -- I entered
10 the, the RCC industry about 1969 and at that time paging
11 stations were typically installed and allocated at distances
12 approximating 60 miles. Now paging stations running
13 independent information are operating as close as 15 to 20
14 miles and, because the technology and the techniques and the
15 simulcast techniques and so on have been -- really matured,
16 our pioneering efforts in those days were -- my first one was
17 out in Los Angeles and we had one transmitter on top of a
18 mountain which did the job sometimes but not in certain
19 places, so we had to put in multiple transmitters. And after
20 we perfected those techniques, within about a year-and-a-half
21 we had 20 transmitters operating in the Los Angeles basin. We
22 typically -- and, by the way, those systems seemed to spread
23 -- through time and bumped into systems that had normally been
24 geographically well separated and people that I could
25 represent, for example, individually in those cities came

1 together and my clients sort of clashed and I was caught in
2 conflicts, all kinds of things. The spread -- I guess the
3 point is the spread of paging stations in those days was
4 tremendous and all during this time there had to be by statute
5 a, a condition that we would prevent RF interference, mutually
6 exclusive radio interference. But, also, we shared
7 frequencies in the strictest sense of the word. For example,
8 in Los Angeles we could frequently get into and trigger pagers
9 in San Diego and so there had to be a sharing arrangement
10 worked out there and, in fact, we did couple terminals
11 together and used monitor receivers and off-air -- we've been
12 through the whole gamut since the, since the late 60s.

13 Q In the major metropolitan areas, you know, was it
14 common at the time for RCCs to share the paging channel within
15 the same market areas?

16 A Yes. And, in fact, in Los Angeles we had as many as
17 13 people on the channel, 13 independent fully licensed
18 individual companies.

19 Q And the engineering techniques used to accomplish
20 that sharing, were they similar or different to the ones that
21 have been testified to in the hearing this week?

22 A The, the techniques that I've heard in the testimony
23 here are sort of rudimentary. They're not very sophisticated
24 techniques, and those were investigated and used and abused
25 back 20 years ago in the RCC industry and they're just not --

1 yes, they've been in use for a long time, but the ones that I
2 heard about here were pretty fundamental, pretty rudimentary.

3 Q So there, there is -- there are precedents in the
4 RCC industry for these kinds of technical operations?

5 A Oh, yes.

6 Q And you lived through that period of time
7 professionally?

8 A I did.

9 Q Okay. All right. Last week Mr. Bobbitt from RAM
10 testified -- made -- had some testimony concerning simulcast
11 systems and the ability of systems to simulcast over more than
12 one radio shot. Do you recall that testimony?

13 A Yes, I do.

14 Q Can you tell the Court whether it's possible to
15 simulcast a wide area paging system over more than one radio
16 control shot?

17 A Yes. Mr. Bobbitt, I think, has limited experience
18 and, in fact, that's common, very common, in the industry.

19 Q All right. Now, did you also hear Mr. Blatt testify
20 concerning an autocalibration procedure on the Hark verifier?

21 A Yes, I did.

22 Q And my understanding of the testimony was that this
23 autocalibration procedure had some sort of effect on, on
24 identifying or limiting the signal on the air that it was --
25 that the verifier would listened to. Is that your

1 understanding of his testimony?

2 A My understanding of what Mr. Blatt said was that he
3 was able to differentiate between signals on the same channel,
4 between -- I guess signals would be a better word, signals on
5 the same channel, by using the Hark verifier. That was my
6 understanding of what Mr. Blatt said.

7 Q And do you have an opinion as to whether the
8 testimony was complete or accurate or do you know?

9 A I mean, I have explanations as to why that was the
10 case, but, but as far as his testimony being --

11 Q Well, let me ask you a different way. To your
12 knowledge what ability does this autocalibration procedure
13 have in terms of discriminating among signals on the air?

14 A Oh. The Hark verifier is -- simply takes the audio
15 output, just -- the stuff that you'd hear on an earphone or on
16 a speaker, and decodes that audio output into whatever
17 messages or traffic is being sent over the air. So
18 essentially it, it will take -- and I think we've had -- I
19 don't recall whether those Hark verifier reports were admitted
20 into evidence here.

21 Q Yes, they were.

22 A Yes, they were. Then that's the kind of information
23 that can be decoded by the Hark verifier. Now, the Hark has
24 a, a fairly limited range over which it can operate properly
25 and that autocalibrate mode that Mr. Blatt -- to which

1 Mr. Blatt referred was a button that you push and the Hark
2 verifier simply adjusts its internal level, the sound that's
3 coming into it, to a comfortable place for it to operate. In
4 actual fact, the Hark verifier leaves -- calibrates at the, at
5 the signal level that's input to it at the time that you punch
6 the button and, assuming that you punch the button when a
7 certain sequence of signals is coming in, it will calibrate
8 itself and then try and decode those. Now, if another signal
9 comes along that's out of its range, its comfort range we'll
10 call it, then, then it's possible that the Hark verifier won't
11 decode the, the information on the channel. So basically it
12 would be possible to have two signals if the transmitters are
13 not set up the same, have two signals, and the Hark verifier
14 distinguish between the two. I have a problem with, with the
15 two signals, presumably two signals, that were supposed to be
16 on that signal, for example, RAM and Capitol. We asked the
17 question -- and this all goes to the Hark verifier, the
18 capability. We asked the question of Mr. Blatt and Mr.
19 McCallister what deviation they had set on their transmitters,
20 and the deviation goes to the volume and in digital
21 transmission it's almost universal that the transmitters are
22 set up using a 4.5 kilohertz deviation. And I have -- Mr.
23 Bobbitt didn't know the answer to that. I guess it was
24 Bobbitt that we asked, not, not Blatt. Mr. Bobbitt didn't
25 know the answer, but I can't assume that it would be anything

1 but what was recommended by the manufacturer, 4.5 kilohertz.
2 McCallister was asked the question and he answered 4.5
3 kilohertz. Given that kind of transmitter deviation on the
4 channel, the levels from those two people should be about the
5 same and the Hark verifier should, in fact, without any
6 trouble at all decode both signals equally without any
7 problem. That problem, just the fact that both of those --
8 both of these companies, Capitol and RAM, would have set their
9 transmitters properly, coupled with the fact that Mr. Blatt
10 had measured or was easily able to, to make that verifier
11 distinguish between two signals when -- led me to the -- in my
12 view, to the inescapable conclusion that there was a third
13 transmitter around, that it, that -- oh, by the way, let me,
14 let me say that once the, once the deviation of a transmitter
15 is set, it's a knob or an adjustment on the transmitter
16 itself, it doesn't vary or drift or anything like that. Once
17 it's set it's pretty stable forever and it's particularly
18 stable on digital because they have limiters built into the
19 transmitters and so on. So it struck me that there had to
20 have been a third transmitter which was deviated at a
21 different deviation, considerably different deviation, since
22 you could tune in on the interfering signal, according to Mr.
23 Blatt's testimony. He found the interfering signal and he
24 gave us those readouts. That interfering signal -- and, by
25 the way, none of these factors were known prior to the

1 testimony of these witnesses from last week. I tried to put
2 together why or how. I know the people at Capitol run scared
3 of the FCC all the time, and this is my own personal knowledge
4 because they call me up and --

5 Q Excuse me, Mr. Peters.

6 A Yeah.

7 Q We'll get to some of these other topics, but have
8 you completed your explanation about the autocalibration and
9 what it does or doesn't do as far as discriminating among
10 signals on the air?

11 A Yes.

12 Q All right. Let me, if I may, move on then to
13 testimony from Mr. Walker that during the inspection they
14 found that one of Capitol's bay stations was operating at 100
15 watts output and the other at 76. Do you recall that
16 testimony?

17 A I do.

18 Q And could you tell the Court whether this is enough
19 power for the type of system that Capitol was operating?

20 A Your Honor, yes, it is. It's my understanding that
21 Capitol wanted a local service and the 76 watts with a, with a
22 moderate gain antenna is enough to provide paging service
23 solidly for a several mile radius, even, even in -- under
24 adverse conditions. Now, this isn't to say that that's the
25 way Capitol intended to stay or anything of the sort. They

1 | happened to have a couple of 100 watt transmitters which they
2 | could use to inaugurate the service. It's pretty common to,
3 | to specify maximums when you're applying for a license so that
4 | if, in fact, the agency who does the, the computations, well,
5 | NABER specifically, can run those computations and see if it's
6 | going to -- whatever they do with them, see if it's going to
7 | effect any other co-channel users. It's also very common to
8 | specify such things as I want to put 500 pagers on or 1,000
9 | pagers and get authorized for those levels of power, antenna
10 | height and number of paging units. We do this all the time in
11 | our application processing. So Capitol put up a pair of
12 | transmitters which were adequate to provide adequate building
13 | penetration which were -- which was capable certainly of
14 | supplying the signals in Charleston. Now, I'm not as familiar
15 | with Huntington as I am with the Charleston operation, but,
16 | but certainly I am familiar with both of the sites that
17 | Capitol used and Capitol -- what's more important is that
18 | Capitol knows about these sites and if you were to take a
19 | pager, which is what they were doing during their testing
20 | processes as I understand it, take a pager and go around to
21 | various locations, the pager would go off adequately, so that
22 | proves adequate power.

23 | Q All right. Now, you were also present, were you
24 | not, when Mr. Bobbitt testified as to various phases of
25 | interference which RAM claimed was caused by, by Capitol or at

1 | least various phases of interference testified to by Mr.
2 | Bobbitt, were you not?

3 | A Yes.

4 | Q All right. I'd like to go through those with you
5 | one at a time this morning. In the, in the first phase, which
6 | I will characterize as the dead carrier phase, this was
7 | interference to RAM's control link. Is that your
8 | understanding of his testimony?

9 | A Unfortunately, it's -- my recollection of the, the
10 | first interference had to do something with -- on the link
11 | frequency had to do something with somebody holding a
12 | microphone in front of a speaker. Would --

13 | Q All right.

14 | A Is that to what you're referring?

15 | Q Well, is that, is that your recollection of the
16 | phenomenon referred to by him as the first --

17 | A Yes. That's, that's my recollection. Now, there
18 | may be some other that I don't recall.

19 | Q All right. Was there anything about his testimony
20 | that, that led you to believe that this was some sort of
21 | interference caused by Capitol?

22 | A Oh, no. I mean, this is -- you hear this in a -- in
23 | a radio amateur situation you hear this kind of thing all the
24 | time, somebody -- or even -- everybody does it once in awhile,
25 | but there's no connection in my mind that it was Capitol

1 causing any of it.

2 Q All right. Now, in the second phase and, again,
3 this is a shorthand reference, the testimony was to hearing a
4 stereo effect from listening to 152.51 and 152.480 that
5 resulted in a stereo effect of duplicate signals. Do you
6 recall that testimony?

7 A Yes, and I also recall the declarations that were
8 -- accompanied -- that are in the record now.

9 Q All right. Now, do you have an opinion as to what
10 that stereo effect was all about?

11 A Typically when you get signals operating, and I
12 think Mr. Walker indicated this, when you get signals
13 operating on two different channels simultaneously, which is
14 the implication here, you're really talking about some sort of
15 an intermodulation type of interference, or this is one
16 possibility. Let me put it that way. I cannot conceive --
17 you know, unless something sinister is going on, it's a, it's
18 a real problem in trying to pin it down and, like the FCC did,
19 and I think very properly, when they came into town to, to
20 perform their, their measurements and their observations,
21 their inspection, the very first thing they did was to pin
22 down and -- where the transmitters were and which transmitter
23 was, was radiating which amount -- which information and very
24 carefully located the sources of the RF. In the present case
25 there has been no indication that any sources of interference,

1 alleged or otherwise, has taken place except during the FCC
2 inspection.

3 Q All right. Well, could you explain briefly a little
4 more about what intermodulation is?

5 A Intermodulation is a, is a phenomena which occurs in
6 a wide variety of objects, we'll say, and the, the bottom line
7 for intermodulation is that signals from say one or two
8 transmitters mixing will produce a product on a third
9 frequency unrelated to the first two frequencies, and so it
10 sounds as if there's a signal originating on that frequency
11 but, in fact, the transmitters involved aren't operating on
12 that frequency at all. They're on different frequencies. So
13 it's a three -- a minimum of two components causing this but,
14 more fundamentally, often there are three or more components
15 causing this. And what happens is, for example, you could
16 have a, a corroded connector that will produce intermodula-
17 tion. It will pick up signals from fairly high energy RF
18 signals. From two transmitters mix these signals around,
19 produce a third signal on a different frequency entirely and
20 if you just turned on a radio and started listening on that
21 particular -- on that third frequency, the mixed frequency,
22 you would, in fact, hear a very solid signal that sounds very
23 normal.

24 Q Well, let's take this back to the testimony. Which
25 -- the testimony was that, that on one receiver 152.51 was

1 | listened to and on the other receiver 152.48 was listened to.
2 | Is it your testimony that the intermod product -- well, which
3 | channel in your opinion was the intermod product on?

4 | A Mr. Hardman, there's no way to determine that.
5 | Unless you can find the source for the intermodulation, unless
6 | you can actually go out there, sniff out the source and say it
7 | is this transmitter, this component or this item that causes
8 | it, there's no way to know.

9 | Q Well, are you saying then that, that the signal on
10 | 152.51 could have been an intermod product from transmissions
11 | on 152.48?

12 | A I am saying that precisely, that the, that the -- I
13 | believe that RAM testified that they heard a stereo effect and
14 | they had receivers on 152.51 and 152.48. I don't know where
15 | these receivers were. I don't know what transmitters might
16 | have been close. I don't know what could have created
17 | intermodulation, but it's a classic case of intermodulation,
18 | and that is 152.51 is tracking along normally just doing
19 | normal paging. Something from its signals, from its energy,
20 | is being mixed in some other source and the product frequency
21 | is 152.48. That happens all the time.

22 | Q Now, the product source where the mixing occurs,
23 | would that have any relation to either 152.48 or 152.51?

24 | A No. This would be totally unbeknownst to the -- to
25 | 152.51. They would not be -- they would be -- they're only a

1 party to it because something is occurring someplace else.

2 You don't know where or what.

3 Q Well, do you have an opinion -- well, is, is -- as
4 far -- I apologize. Do you have an opinion as to whether
5 Capitol would somehow be at fault in the creation of this
6 intermod product on 152.48 or whatever?

7 A No. I can't tell you that because the mix could
8 have occurred in their transmitter. The mix could be -- occur
9 -- frequently it occurs in a wide band broadcast transmitters
10 if there's a nearby broadcast transmitter. Sometimes it
11 occurs in, in coils of cable that I've run into. But normally
12 when you find -- when you go hunting for this kind of
13 interference you start looking for the sources and you do use
14 normal, what can I say, non-space age techniques, simple
15 directional antenna that you can hold in your hand and you
16 have a -- some kind of a receiver and you can listen for it
17 with a pair of headsets or on a little meter that gives you an
18 indication. There are ways of doing this and when we go out
19 looking for intermod interference that's the way we do it.

20 Q Well, would Capitol have necessarily been able to
21 replicate this condition if it went looking for --

22 A They may not have even known about it. In fact,
23 there's a good likelihood that they wouldn't. They would have
24 no reason to know about this. The only people that would have
25 a reason are those who are affected on the frequency where

1 | this product was generated.

2 | Q All right. But what I'm getting at is obviously
3 | this was a case where RAM complained to the FCC which, in turn
4 | -- not in turn, but some days later the complaint arrived at
5 | -- in my office and a response was filed. And what I'm trying
6 | to determine is when Capitol went to investigate what should
7 | it have been able to find, if anything, about the interference
8 | condition, alleged interference condition?

9 | A If they investigated their own equipment and looked
10 | at the transmitter meter readings and just generally went over
11 | their equipment they would have no reason to do anything
12 | because they're really not at fault, if there's a fault
13 | condition associated. I mean, it's their signal and, of
14 | course, they're a party to it, but there's no --

15 | Q All right. Now, let's move on to the third phase as
16 | described by Mr. Bobbitt, the sequential tone testing, for
17 | want of a better description. Do you recall that testimony?

18 | A Yes. Yes.

19 | Q Now, is it your understanding from the testimony and
20 | the other information you've heard that these signals emanated
21 | from RAM -- from Capitol's transmitter on 152.48 megahertz?

22 | A I don't think there's any question about it. I
23 | think these are the signals -- if I understand that you're
24 | referring to the, to the two-tone sequential -- three two-tone
25 | sequential signals that were, that were duplicated that the

1 FCC inspectors measured, I have -- there's no issue in my mind
2 that they didn't measure that or anything else, perfectly
3 adequate accurate measurements.

4 Q All right. I would refer you to Section 90.7 of FCC
5 rule Definition of Harmful Interference which I would first
6 read for your -- refreshing your recollection.

7 A Please do.

8 Q And then ask you some questions about. "Harmful
9 Interference. For purposes of resolving conflicts between
10 stations operating under this part, any emission, radiation or
11 induction which specifically degrades, obstructs or interrupts
12 the service provided by such station." And my question to
13 you, sir, is having heard that definition, do you have an
14 opinion as to whether the, the testing phase, if you will,
15 specifically degraded RAM's transmissions on 152.48 megahertz?

16 A No. It wouldn't have affected RAM's transmissions
17 or changed their nature unless, unless, you know, they were
18 simultaneous.

19 Q You mean walking on top?

20 A Yeah.

21 Q Well, did you hear any evidence of a pattern of, of
22 that sort of --

23 A No. I heard, I heard evidence, I believe, from Mr.
24 Walker that, that there were some instances where Capitol
25 transmitted at the time that RAM was up and vice versa.

1 Q All right. And I believe you address your opinion
2 as to that situation in your prepared direct, do you not?

3 A Yes.

4 Q All right. Now, let me ask you, does that -- during
5 that phase do you have an opinion as to whether those
6 transmissions obstruct or did obstruct the service of, of RAM?

7 A In -- my definition of the term, and I'm, I'm using
8 just standard English, my understanding of the term obstruct,
9 I would say that -- Mr. Hardman, I'm having trouble in this
10 whole -- so far in this whole case because in my opinion --

11 Q Well, let me stop you before an objection. All
12 right. Let's go back to my question of obstruction and you
13 started to tell us what your definition of obstruct was and
14 would you pick up at that point and save other information for
15 other questions?

16 A My definition of obstruction means that I would
17 prevent someone else from doing something and, and if I
18 weren't permitted to do that for some reason, then -- and I
19 did it, then I would be obstructing. I think that RAM -- that
20 Capitol just did what it would do, should do and was
21 authorized to do and that is transmit on the channel, and I
22 don't consider any of that obstruction.

23 Q All right. And the last specifically named
24 component was interruption of the service. Do you have an
25 opinion as to whether those transmissions interrupted RAM's

1 transmissions?

2 A No. I -- no. I mean, yes, I have an opinion and
3 no, they did not.

4 Q All right. Now, let's go to the last phase then
5 which I will characterized as the, the retransmission phase.

6 JUDGE CHACHKIN: Well, I'd like to -- what do you
7 say -- you meant -- you said Capitol had a right to transmit.
8 Therefore, you don't consider that to be obstruction. What do
9 you mean they had a right to transmit?

10 MR. PETERS: Your Honor, the -- to me the definition
11 in that -- those words mean if you cause an obstruction to
12 somebody and you're not authorized to obstruct somebody, then
13 you're in violation. Channel sharing by its nature is an
14 obstruction. I have several pages that have backed up in my
15 terminal and I really want to get them out as far as I can,
16 but I can't do that because someone's using the channel. Now,
17 if -- from the one side it's viewed as an obstruction. From
18 the other side it's viewed as, you know, I'm authorized to do
19 this and I'm sorry that I'm obstructing you but I'm doing my
20 job. So in a sharing situation it depends on which side of
21 the fence you're sitting on as to what's happening. And, and
22 I think those words don't really account for a sharing
23 situation. I think they account for somebody who's really
24 putting out a signal and trying to obstruct, trying to do
25 damage or something on that order.

1 MR. HARDMAN: You mean walking on top?

2 MR. PETERS: Walking on top. That -- yes. That's
3 disabling in my view depending on where it occurred and what
4 frequency.

5 JUDGE CHACHKIN: Now, what do you mean by walking on
6 top?

7 MR. PETERS: That's a term that was really -- that
8 I've heard a lot. It means two RF transmissions occur
9 simultaneously to the destruction of really both.

10 JUDGE CHACHKIN: Well, but how -- I'm difficult --
11 if you have a shared channel which both presumably have
12 authority to transmit, how do you have a situation of walking
13 on top? I mean, how does it occur?

14 MR. PETERS: Only a mechanical defect in my view,
15 Your Honor. It -- I went into some detail in my direct
16 testimony saying that it's very -- it is not trivial. It's
17 very difficult to find a really good monitor location that
18 will provide you good stable signals to know when other people
19 are on the air without getting it so good that you're picking
20 up signals from all over the countryside and that you hold
21 your transmitters down, quiet them down, for anybody that
22 might be transmitting within 100 miles or so, which is about
23 the range for a good sensitive monitor receiver. It could be
24 even more than that.

25 JUDGE CHACHKIN: Let me ask you this. If RAM, for

1 instance, is transmitting 50 minutes an hour in some
2 situations, what can -- and another person wants to transmit
3 on the same frequency, what can they do?

4 MR. PETERS: In cases where you've had -- and I've
5 been through a lot of negotiations for, for channel sharing
6 just in this kind of situation. In those cases the parties
7 generally agree to share the channel on a time basis so that
8 they'll say I'll give you 30 minutes of every -- 30 seconds of
9 every minute and you take 30 seconds, and literally you have a
10 switching arrangement that just flip flops between the
11 parties, and for that 30 seconds you spit out your page and
12 you go back the other way. Now, this kind of sharing that's
13 occurring on PCP frequencies is sort of a free for all. You
14 don't have -- you really don't have a given amount of page. I
15 was appalled when I heard that some of these pages would last
16 four and five hours and it just -- that is not sharing. There
17 is no way that somebody can get in and share that channel if
18 the other guy is using it for four or five hours. That isn't
19 to say that the other guy is illegitimate in any way. But I
20 think fundamentally there ought to be something incorporated
21 in this thing that says that -- break it down into smaller
22 increments and say on a one minute basis or two or three
23 minute basis. I think that the Commission had some
24 reservations when it -- it indicated that if you're
25 interconnected we want to keep those conversations short

1 | because they can range on like all telephone conversation and
2 | just keep them down to a three minute structure. I think the
3 | sharing arrangement may be as a -- I don't know, as a fall
4 | back, if you can't get two parties to agree maybe there should
5 | be an imposition of a specific set of circumstances that they
6 | must adhere to like, like if you guys can't agree, you're
7 | going to have to do it on an even, even Steven basis, each of
8 | you take half of the channel, and then all of a sudden the
9 | third party walks in here who's within interference range.
10 | What do you do then? Do you take it one over end as the time
11 | that's to be shared? I really don't know the answer. It is
12 | not trivial. It's a very difficult issue.

13 | JUDGE CHACHKIN: You mentioned that RCC shared in
14 | the metropolitan areas. They were sharing channels.

15 | MR. PETERS: Indeed.

16 | JUDGE CHACHKIN: How did they -- what kind of
17 | sharing -- did the FCC have any rules as to the sharing
18 | arrangements that they would have to operate under?

19 | MR. PETERS: No. Oddly enough, they didn't and it's
20 | interesting because some sharing arrangements took -- besides
21 | the gross amount of bleeding that was done trying to get these
22 | things worked out, some sharing arrangements took years to
23 | develop and, and there was a lot of court intervention and --
24 | not a lot, but there was some court intervention just in
25 | trying to work out and hammer out these sharing arrangements

1 and there has to be a better way to do it. I really don't
2 know the answer. I wish I did. I wish I could come up with
3 an equitable solution that -- for everyone, but I do know that
4 there's a -- there is a great tendency for people who are the
5 incumbents, and this is true in a lot of areas, but -- in a
6 lot of factors of life, to use as much channel time as they
7 can and say look at me, I'm 100 percent or something like that
8 and they might -- I've heard of cases, although I've not
9 proven them, but in talking with my clients, where somebody
10 actually puts on more information on a channel. They
11 replicate things more frequently than they should just to show
12 occupancy. I don't know how to -- I don't envy you your job.

13 JUDGE CHACHKIN: We'll take a ten minute recess.

14 (Whereupon, a brief recess was taken from 11:13 a.m.
15 until 11:27 a.m.)

16 JUDGE CHACHKIN: Let's go back on the record. Let
17 me ask you this, Mr. Peters. When the Commission established
18 the shared use concept, what did they have in mind and what
19 did they expect from the parties who would -- applicants who
20 planned on using it on a shared basis?

21 MR. PETERS: Your Honor, to the best of my knowledge
22 the -- that was done pretty much under pressure by the RCC
23 industry to keep the, the concept of private paging different
24 in some respect from the RCCs. The RCCs had a protected
25 service area that they themselves could define and that once

1 defined everyone had to protect. The sharing concept meant --
2 I think -- personally think that it was meant to introduce a
3 random impediment to the whole process so that they wouldn't
4 be as much as competition to the RCC. The sharing concept
5 really couldn't be defined then. I'm not sure it can be
6 defined now. It's just you will share. And I know of no
7 better explanation than that. I don't mean that it was taken
8 lightly or that it was loosely done. That isn't, that isn't
9 my implication at all. I think that it's a difficult concept
10 and I think that it would have been easy in the legislative --
11 in the formative part of this to say if questions arise we'll
12 handle them on a case by case basis, and I think -- and for us
13 to make a judgment now about what constitutes sharing I think,
14 is a, is a very, very hard thing to do. I personally would
15 like to see sharing done, if it can't be done any other way,
16 done on a, on a relatively small increment basis. On the --
17 with the pages that -- the paging that's on -- that's
18 available now, the -- each individual page is probably a tenth
19 of a second or an eighth of a second. You can get eight pages
20 per second. So if you gave someone a minute to do what they
21 had to do, if they didn't take that, then the minute would be
22 available for someone else or, in the alternative, you could
23 have equal increments of time. I really don't know how to do
24 that exactly. I would -- for the sake of efficiency and from
25 an engineering view at least, I would suggest that, that you

1 are entitled to say so many seconds of air time. If you don't
2 have the paging traffic to utilize that full increment, you
3 stop and the busy monitors will automatically let someone else
4 go on. That's the only way I know when you have -- when you
5 don't have a fixed number of users on a channel, when it can
6 be an open ended number of users, and that's where the problem
7 comes in.

8 JUDGE CHACHKIN: Now, I'm familiar with interference
9 in the normal sense that you have a situation where someone
10 doesn't belong there, is interfering with someone else's
11 signal.

12 MR. PETERS: Yes.

13 JUDGE CHACHKIN: But here you have a situation. We
14 have shared -- a shared frequency. How do you define
15 interference in that terms other than where you said someone
16 was walking over someone's signal.

17 MR. PETERS: Well, even, even walking over is a
18 permissible form of transmission if, if -- let's take a sort
19 of a semi-ridiculous case in West Virginia and adapt the
20 concept here. I have two valleys that are literally adjacent
21 to each other. I place a transmitter on the mountain between
22 the two valleys, one transmitter pointed in one direction, the
23 other transmitter pointed the other direction. Clearly when
24 both these transmitters are on in most locations in that
25 vicinity there will be such mutually destructive interference

1 that they will wipe each other out. In those two valleys
2 they'll be perfectly decodable and usable. So, so the whole
3 concept of interference depends upon whether or not -- and I
4 think Mr. Walker stated this succinctly, whether or not a page
5 was received. So just the mere fact that somebody is
6 transmitting on the channel doesn't constitute interference or
7 even come close to it. It's, it's if that person that's
8 transmitting on the channel is truly disrupting service to my
9 paging subscribers when it becomes interference, and that's a
10 much more difficult question. The mere fact that you sit and
11 listen to a receiver that somebody else is transmitting on the
12 channel does not mean interference or even close to it.

13 JUDGE CHACHKIN: Go ahead, Mr. Hardman.

14 BY MR. HARDMAN:

15 Q Let me follow up, if I may, with a couple of
16 questions. Mr. Peters, traditionally in the private radio
17 services do you know whether the frequencies are typically
18 assigned on a shared basis or not?

19 A Yes, in most cases, in virtually all cases that I
20 know of.

21 Q All right. And what are the nature of the licensees
22 that traditionally in the private services have operated these
23 stations? Are they end users or what type of entities?

24 A Well, it really depends on the class of service.
25 I've prepared applications for -- and designed systems for

1 mainly small businesses in the business radio service and, and
2 they're just individual companies, local area needs and that
3 sort of thing.

4 Q What type of use? Did they, did they use it for
5 their own internal purposes or are they operating services or
6 hired to, to the public or what's the nature of the
7 traditional use in the private services?

8 A Years ago we started out doing those applications
9 fundamentally onesy, twosey. A construction company would
10 want to talk to its trucks or its personnel in a given area.
11 There -- the concept of repeaters arose and they were licensed
12 under the private rules and would be quite efficient sharing
13 their facilities with a number of different users, so those,
14 those concepts came up, but there was a strict -- and there
15 was a furor about it from the common carriers, but there,
16 there was a strict adherence to we'll charge only what we --
17 we don't make a profit. It's not a, it's not a business unto
18 itself. It's a service. The concept -- and then conditions,
19 of course, over time changed and the FCC got more liberal in
20 its whole approach to things and when they created the, the
21 PCPs the only distinction between a PCP channel and an RCC
22 channel would have been this concept of sharing.

23 Q That's what I'm trying to get at. In the private
24 services the technical parameters under which channels are
25 licensed, namely shared, and that sort of thing, that has